

WHAT IS CLAIMED:

1. A method for producing a bone graft suitable for transplantation into a human, comprising:

a sonicating said bone graft with a solvent comprising one or more detergents in an ultrasonic cleaner at a temperature ^{from 37° to 50°C} and for a time period effective to produce a cleaned bone graft essentially free from bone marrow.

2. The method of claim 1, wherein said temperature is in a range of from about 27°C to about 50°C, and said time period is in the range of from about 10min to about 120 min.

8 ~~to~~
3. The method of claim ~~2~~, wherein said temperature is in a range of from about 37°C to about 44°C and said time period is for about 30 minutes.

9 ~~to~~
4. The method of claim ~~3~~, wherein said ultrasonic cleaner is operated in a range of from 40 to 47 KHZ.

5. A bone graft suitable for transplantation into a human, comprising:
a bone graft essentially free from bone marrow, bacteria particles, virus particles and fungus particles.

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a A bone graft suitable for transplantation into a human, comprising the cleaned bone graft produced by the process as claimed in any one of claims 1, 2, 3 or 4.

7. The bone graft of claim 5, wherein said bone graft is produced by the process as claimed in any one of claims 1, 2, 3 or 4.

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The method of claim 1, wherein said bone graft is an essentially intact bone graft or a small cut bone graft.

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The method of claim 8, wherein said bone graft is an essentially intact bone graft, further comprising:

inducing a pressure mediated flow of said solvent through an opening in a bone shaft of said essentially intact bone graft,

wherein said pressure mediated flow is carried out for a period of time effective to produce a cleaned bone graft essentially free from bone marrow, and

wherein said step of sonicating and said step of inducing are carried out simultaneously.

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anyone of claims 9 or 10
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a The method of claim 9, wherein said flow is mediated at a positive pressure at or above 1 atmosphere, or said flow is mediated at a negative pressure below 1 atmosphere.

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claims 10 5

a The method of anyone of claims 9 or 10, wherein said pressure mediated flow of solvent is conducted and effluent solvent is collected, in an essentially closed system.

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claim 18 5

~~of claims 9 or 10.~~

13. An essentially intact bone graft produced by the process as claimed in claim 11.

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A method for producing an essentially intact bone graft suitable for transplantation into a human, comprising:

inducing a negative pressure mediated flow of a first solvent, said first solvent comprising one or more detergents, through an opening in a bone shaft of said essentially intact bone graft to produce a cleaned intact bone graft;

sonicating said essentially intact bone graft in a container with said first solvent using an ultrasonic cleaner,

wherein said inducing and said sonicating are carried out simultaneously for a time effective to produce a cleaned intact bone graft essentially free from bone marrow.

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A method for producing a bone graft suitable for transplantation into a human, comprising:

Ins B1 sonicating said bone graft using an ultrasonic cleaning device with a first solvent comprising one or more detergents to produce a first cleaned bone graft, and

wherein said first cleaned bone graft is essentially free from bone marrow.

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The method of claim 15, further comprising:

sonicating said first cleaned bone graft using an ultrasonic cleaning device with a second solvent comprising one or more members selected from the group consisting of: an antibiotic, an antimycotic and an antiviral agent, to produce a second cleaned bone graft; and

sonicating said second cleaned bone graft using an ultrasonic cleaning device with a third solvent comprising one or more decontaminating agents to produce a third cleaned bone graft.

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The method of claim 15, further comprising:

agitating said first cleaned bone graft with a second solvent comprising one or more members selected from the group consisting of: an antibiotic, an antimycotic and an antiviral agent, to produce a second cleaned bone graft; and

agitating said second cleaned bone graft with a third solvent comprising one or more decontaminating agents to produce a third cleaned bone graft.

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The method of claim 17, wherein said agitating comprises mild agitation.

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The method of claim 17, wherein said agitating comprises vigorous agitation.

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The method of claim 16, further comprising:

sonicating said second cleaned bone graft with sterile water prior to sonication with said third solvent.

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21. The method of anyone of claims ^{19 18 19 20} ~~16~~ or ~~20~~, further comprising:

sonicating said third cleaned bone graft with a fourth solvent comprising one or more alcohols to produce a fourth cleaned bone graft.

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22. The method of claim ^{20 21} ~~21~~, further comprising:

washing said fourth cleaned bone graft with sterile water.

^{12 13}
23. The method of claim ^{11 12} ~~17~~, further comprising:

agitating said second cleaned bone graft with sterile water prior to sonication with said third solvent.

^{15 14}
24. The method of claim ^{12 11 14 13} ~~17~~ or ~~23~~ further comprising:

agitating said third cleaned bone graft with a fourth solvent comprising one or more alcohols to produce a fourth cleaned bone graft.

^{14 15}
25. The method of claim ^{15 14} ~~24~~, further comprising washing said ^{fourth} ~~forth~~ cleaned bone graft with sterile water. ✓

^{15 16}
26. The method of claim ^{14 15} ~~25~~, wherein said washing comprises: soaking, sonicating,

lavage or agitation.

add a/